



5.2 City of Newport News Profile

The following sections present a detailed assessment of critical hazards that affect the City of Newport News. Understanding these hazards will assist the Peninsula region in its process of identifying specific risks and developing a mitigation strategy to address those risks.

5.2.1 Flooding – City of Newport News

The geographic location of the City of Newport News makes it extremely susceptible to coastal flooding. Storms associated with coastal flooding include hurricanes and nor'easters. These types of events typically drop large amounts of rain and generate high winds that result in storm surge. Storm surge is essentially the water that is pushed toward the shore by the persistent force of the winds of an approaching storm. Astronomical tides occur independent of climactic conditions. Depending on the tide level at the time of landfall, storm surge may be elevated due to high tides or spring high tides. Flash flooding and urban flooding are also a concern within the City limits.

As part of the NFIP, FEMA created a Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) for the City of Newport News. In addition, the NCDC tracks the occurrence of flooding events for communities across the nation. All of these data sources were considered in developing the hazard identification and vulnerability assessment.

FEMA published a FIS for the City of Newport News, dated January 17, 1986. The FIRMs, which accompany this FIS, delineate the 100- and 500-year flood hazard boundaries for flooding sources identified in areas of growing development or areas predicted to have future development, at the time of the report. A detailed wave height analysis was developed to in order to delineate the 100- and 500-year flood hazard boundaries for the City. This analysis resulted in a 100-year stillwater elevation of 8.5 feet for the City and a maximum 100-year wave crest of 11 to 13 feet. Refer to this report for a detailed description of methods and assumptions. The significant flood events outlined in the FIS are given below in Table 5.2.1a.

Table 5.2.1a-Significant Flood Events
City of Newport News Flood Insurance Study

Date	Storm	Tide Elevations
August 1933	Hurricane	Max tide heights averaged 8 feet
April 1956	Nor'easter	Not given
October 1957	Hurricane – Not Named	Not given
September 1960	Hurricane Donna	Not given
March 1962	Nor'easter	Max tide heights averaged 6.8 feet

Source: FEMA 1986

The NCDC, operated by NOAA, keeps a record of significant weather related events and damage estimates for the entire country. Listed below (Table 5.2.1b) are the significant events that have affected the City of Newport News.

Table 5.2.1b- NCDC Listed Significant Flood Events –City of Newport News

Date	Event	Precipitation	Comments
September 15 to 17, 1999	Hurricane Floyd	12 to 18 inches	<ul style="list-style-type: none"> Numerous roads washed out due to flooding Flooding considered 500-year flood Enormous crop damage
July 19, 2000	Flash Flood	Not given	<ul style="list-style-type: none"> Heavy rain caused flooding and road closures

5.2.2 Hurricanes – City of Newport News

The FIS for the City of Newport News identified two historic hurricanes that affected the City (see Table 5.2.1b above); however, specific damage estimates were not given. The NCDC dataset listed five hurricanes for the City of Newport News for the period between 1950 to June 2004. These storms are listed in Table 5.2.2.

Table 5.2.2- Historic Hurricanes – City of Newport News

Date	Storm Name	Category	Descriptions
August 15, 1995	Felix	Not provided	<ul style="list-style-type: none"> No major damage reported in VA Tides 2.0-2.5 feet above normal
July 12, 1996	Hurricane	Not provided	<ul style="list-style-type: none"> None given
September 1, 1999	Dennis	Hurricane/Tropical Storm	<ul style="list-style-type: none"> Prolonged period of tropical cyclone Highest sustained winds at Langley 52mph Generated F2 tornado Tide 3 feet above normal Coastal flooding 2 to 5 inches of rain \$27,000 damage
September 15, 1999	Hurricane Floyd	Category 1/Tropical Storm	<ul style="list-style-type: none"> Spawned 2 tornados Hundreds of downed tress Tide 3.9 feet above normal Numerous roads washed out \$99.4 million in property damage over the entire affected area Flooded portions of I-64 in Newport News Flooded townhomes near Newport News Park; water up to 2nd floor in some cases
September 18, 2003	Hurricane Isabel	Category 1/Tropical Storm	<ul style="list-style-type: none"> Damaged residents and businesses Greatest storm surge since Hazel Thousands of uprooted trees Debris damage to homes Heavy rain caused flooding and road closures Power outage Water contamination

Hurricane Floyd moved through the area in September 1999, dropping 16.57 inches of rain within 24 hours and generating winds in excess of 50 mph in Newport News. Throughout the Peninsula, trees and power lines were knocked down, roads flooded, and over 5,500 homes were left without power. There was damage done to Interstate 64, and flooding along Kiln Creek, Newmarket Creek and Salters Creek.

I-64 flooding in Newport News from Hurricane Floyd

Hurricane Isabel made landfall on September 18, 2003, as a Category 2 hurricane near Drum Inlet, North Carolina. Hurricane conditions affected portions of southeastern Virginia. Rainfall averaged four to seven inches over large portions of eastern North Carolina as well as east-central Virginia. Hurricane Isabel is considered to be one of the most significant storms to hit this area since Hurricane Hazel (1954) and the Chesapeake-Potomac Hurricane of 1933.



Isabel produced storm surges six to eight feet above normal high tide levels and is directly responsible for 10 deaths in Virginia and indirectly responsible for 22 deaths. Isabel caused widespread wind and storm surge damage in eastern North Carolina and southeastern Virginia, currently estimated at \$925 million in Virginia. All of the above data was taken from the NOAA Tropical Cyclone Report for Hurricane Isabel (Beven and Cobb, 2004).

Isabel caused 83 million dollars of damage in Newport News, knocked down over 44,000 trees and cut nearly 99 percent of the City's power. Most of the \$83 million damage was residential and business losses in Newport News. The damage assessment report showed a significant amount of dollars used for debris clearance/removal to restore usage to roads, water facilities, and public buildings.

5.2.3 Tornadoes – City of Newport News

The City of Newport News has experienced seven tornadoes over the period of 1951 to 2001 (Table 5.2.3), which have caused a variety of damage. The most significant tornado occurred on September 5, 1979, which generated high winds and caused some injuries in the affected area, which included neighboring areas.

A tornado struck Newport News a little past 3 p.m. on August 6, 1993. A man on the James River Bridge saw three funnel clouds over the river. Two dissipated and the third touched down moving through the woods on the Newport News side of the river. The tornado tracked 12 miles through Newport News, Hampton and Langley Air Force Base. In Newport News, eight people were injured, 163 homes were damaged, 12 were condemned and damage costs were \$1.2 million.



Table 5.2.3- Historic Tornadoes – City of Newport News

Date	Magnitude	Deaths	Injuries	Descriptions
June 27, 1951	F1	0	0	▪ None Reported
April 6, 1958	F1	0	0	▪ None Reported
October 7, 1965	F0	0	0	▪ None Reported
September 5, 1979	F3	0	2	▪ None Reported
June 1, 1982	F0	0	0	▪ None Reported
August 6, 1993	Not available	0	8	▪ \$1.2 million
August 11, 2001	F0	0	0	▪ Weak tornado damaging a couple of mobile homes and produced minor damage at a townhouse complex near Fort Eustis

5.2.4 Wildfire – City of Newport News

Many wildfires are caused by human acts, both intentional and unintentional. Wildfires are also started through natural occurrences, such as lightning strikes. Wildfire danger can vary greatly season to season and is often exacerbated by dry weather conditions. Because of wild fire risk, VDOF has provided new information on identifying high-risk fire areas. Their Fire Risk Assessment Map was designed to help communities determine areas with the greatest vulnerability to wildfire.

The Wildfire Risk Assessment Map in Appendix B, delineates the aerial extent of wildfire vulnerability within the City of Newport News, based on VDOF fire risk assessment data. The large format Multi-Hazard Map provided with this plan also delineates wildfire hazard areas for Newport News, specifically. Approximately 9 percent of the City falls in a high wildfire risk area. Parameters used to establish these risk boundaries are land use, population density, slope, land cover and proximity to roads.

The proximity of the tree lines or brush to the highway or roadway is also included in the wildfire risk analysis to capture the human/wildfire causal relationship. Travel corridors increase the probability of human presence across a landscape, thereby increasing the probability of wildfire ignition. As such, areas closer to roads are much more likely to attain a higher ignition probability.

5.2.5 Vulnerability Assessment – City of Newport News

The PHMPC conducted a vulnerability analysis for each natural hazard that was identified as critical with medium to high hazard potential. As several of these hazards are prone to occur in any part of the City, the exposure associated with tornadoes and winter storms is assumed to include the entire city. This section describes the methodology used to perform the vulnerability analysis for each hazard and then lists the results of this analysis.



Flooding – City of Newport News

The City of Newport News GIS Department provided tax parcel data including the tax assessor database and digital copies of the FEMA delineated floodplains for the City. The 100-year flood hazard boundaries delineated on the existing FEMA FIRM for the City include detailed, approximate and V-zones. These shapefiles were merged into a single 100-year flood hazard layer and intersected with the parcel layer provided by the City. Any tax parcel that intersected the delineated floodplain was considered as inside the floodplain and its building improvement value was added to the total property value in the 100-year floodplain.

The dataset provided by the City contained 53,585 parcels. Approximately 4,596 (9 percent) of these parcels intersect the 100-year flood hazard area. The total at risk value associated with these parcels is \$2,586,130,866. This is approximately 27 percent of the total improvement value for the entire city.

FEMA has developed a concept to highlight the impact that repetitively flooded structures have had on the NFIP. The term “repetitive loss,” as applied to the NFIP, refers to any property for which two or more flood insurance claims in excess of \$1,000 each in a 10-year period of time have been paid. In 1998, FEMA reported that the NFIP's 75,000 repetitive loss properties had already cost \$2.8 billion in flood insurance payments and numerous other flood prone properties continue to remain at high risk in the nation's floodplains. While these properties make up only one to two percent of the flood insurance policies currently in force, they account for 40 percent of the country's flood insurance claim payments. A report on repetitive loss structures completed by the National Wildlife Federation found that 20 percent of these structures are listed as being outside of the 100-year floodplain (Conrad et al. 1998).

Including flood insurance claims paid as a result of flood damage caused by Hurricane Isabel in 2003, FEMA has identified 20 structures as repetitive loss structures in the City of Newport News.

Hurricane – City of Newport News

Hazards U.S. – Multi Hazard (HAZUS^{®MH}) was utilized to perform a wind hazard analysis for Newport News. HAZUS^{®MH} software is a multi-hazard loss estimation program that was developed under a cooperative agreement between the National Institute of Building Sciences and FEMA. The current version of HAZUS^{®MH} has the ability to calculate earthquake, wind, and flood hazards as well as potential economic losses associated with these hazards. The software is designed with the flexibility to perform loss estimations at three different levels. Level 1 utilizes all default parameters built into the software. Levels 2 and 3 require user defined scenarios and building inventory data. For the purpose of this plan, a Level 1 wind analysis was performed to calculate the wind hazard for each Peninsula community. The software package also has the ability to analyze historic storm data or a probabilistic scenario. The probabilistic scenario activates a database of many thousands of storm tracks and intensities. This scenario generates hurricane hazards based on set return periods. These return periods define the statistical probability that a storm of a given size and intensity could occur within any year.



Table 5.2.5a lists the total dollar value of exposed structures for the City of Newport News. The HAZUS^{®MH} software is based on the 2002 Census data. Although current development trends in the Peninsula region may render the 2002 Census data somewhat obsolete, this analysis depicts the probability of occurrence and can generally be used to estimate potential damages due to high winds.

Table 5.2.5a- Value of Exposed Structures from HAZUS^{®MH} – City of Newport News

Occupancy Type	Value of Exposed Structures (\$1,000)
Residential	8,859,193
Non-Residential	1,679,920
Total	10,539,113

The probabilistic analysis generated with the HAZUS^{®MH} software utilized the same building stock information listed above. The probabilistic scenario generates hurricane hazards based on set return periods. These return periods define the statistical probability that a storm of a given size and intensity could occur within any year. The probabilistic method was used to generate loss estimations of storms with specific recurrence intervals: 10-, 20-, 50-, 100-, 200-, 500-, and 1000-year. Since residential structures comprise a significantly large percentage of the occupancy classification, these data are presented in Table 5.2.5b below.

Table 5.2.5b-Summary of Probabilistic Analysis – Residential Structures – City of Newport News

Return Period	Residential Building Damage – Number of Buildings			
	Minor	Moderate	Severe	Destruction
10-year	72	7	0	0
20-year	719	96	18	0
50-year	5,112	958	171	11
100-year	6,078	1,519	270	49
200-year	15,780	7,151	1,407	602
500-year	16,231	12,985	5,012	3,315
1000-year	14,325	14,266	7,240	5,477

Tornado – City of Newport News

The facilities and building stock that were identified as exposed under hurricane hazards are also exposed to tornado hazards. Tornadoes are random natural events that strike with little warning but are associated with thunderstorms and hurricanes.



Wildfire – City of Newport News

The Wildfire Risk Assessment data, provided by VDOF, was utilized to estimate the wildfire risk for the City of Newport News. This data layer was intersected with the City's tax parcel mapping in order to estimate the value of at risk structures.

According to the VDOF Wildfire Risk Assessment mapping, approximately nine percent of the City is located within the high wildfire risk zone. There are 1,856 parcels that intersect with this high wildfire area, which results in an at risk building stock value of \$1,388,486,700.

Critical Facilities Analysis – City of Newport News

In order to assess the vulnerability of a community to natural hazards, the PHMPC conducted an inventory of Newport News structures and critical facilities (Appendix E). Critical facilities are those facilities that warrant special attention in preparing for a disaster and/or facilities that are of vital importance to maintaining citizen life, health, and safety during and/or directly after a disaster event.

The inventory of critical facilities for the City of Newport News includes emergency response facilities such as police stations, fire departments, emergency medical service stations (EMS), public facilities including schools and local government buildings. The code and number provided in the table identify these facilities on the all-hazard mapping provided in Appendix F. Those facilities that are geographically located within an identified hazard zone are listed in Tables 5.2.5c, 5.2.5d, and 5.2.5e.



Table 5.2.5c- Critical Facilities in 100-Year Floodplain

Name	Code	Number
Pump Station	PS	PS 014
Pump Station	PS	PS 030
Pump Station	PS	PS 031
Pump Station	PS	PS 037
Pump Station	PS	PS 044
Pump Station	PS	PS 049
Pump Station	PS	PS 053
Pump Station	PS	PS 089
Pump Station	PS	PS 087
Pump Station	PS	PS 096
Pump Station	PS	PS 097
Pump Station	PS	PS 123
Pump Station	PS	PS 135
Pump Station	PS	PS 143
Pump Station	PS	PS 145
Pump Station	PS	PS 161
Pump Station	PS	PS 163
Pump Station	PS	PS 056
Pump Station	PS	PS 068
Pump Station	PS	PS 072
Pump Station	PS	PS 078
Pump Station	PS	PS 079
Pump Station	PS	PS 002
Pump Station	PS	PS 008
Pump Station	PS	PS 013
Richard T. Yates Elem.	SC	26

Source: AMEC
Critical Facility Key Code, see Appendix E

Table 5.2.5d - Critical Facilities at Risk - Surge Zone Hurricane Category 4

Name	Code	Number
Calvary Sda School	SC	7
Parkview Christian Academy Day	SC	15
B. T. Washington Middle	SC	18
Dunbar-Erwin Elem.	SC	20
Huntington Middle	SC	23
John Marshall Elem.	SC	25
Richard T. Yates Elem.	SC	26
Pump Station	PS	PS 014
Pump Station	PS	PS 017
Pump Station	PS	PS 018
Pump Station	PS	PS 027
Pump Station	PS	PS 031
Pump Station	PS	PS 032



Name	Code	Number
Pump Station	PS	PS 033
Pump Station	PS	PS 034
Pump Station	PS	PS 037
Pump Station	PS	PS 038
Pump Station	PS	PS 039
Pump Station	PS	PS 049
Pump Station	PS	PS 051
Pump Station	PS	PS 053
Pump Station	PS	WWPFS
Pump Station	PS	WWPDV
East End Health Center	CL	11
Whittaker Hosp Medical Office	CL	12
Youth Campus Day Care	DC	20
Ding Dong Kindergarten	DC	21
Tic-Toc Kindergarten	DC	22
Quality Nursery & Garden Center	DC	23
Fire Warehouse	FR	3
Station 2	FR	10
Station 7	FR	11
Zion Baptist Convalescent	NH	3
Nursing Home	NH	12
Mdn Center	NH	13
Spratley Housing	NH	15
Pump Station	PS	PS 099
Pump Station	PS	PS 089
Pump Station	PS	PS 112
Pump Station	PS	PS 116
Pump Station	PS	PS 086
Pump Station	PS	PS 095
Pump Station	PS	PS 096
Pump Station	PS	PS 097
Pump Station	PS	PS 118
Pump Station	PS	PS 120
Pump Station	PS	PS 123
Pump Station	PS	PS 125
Pump Station	PS	PS 139
Pump Station	PS	PS 145
Pump Station	PS	PS 092
Pump Station	PS	PS 108
Pump Station	PS	PS 149
Pump Station	PS	PS 159
Pump Station	PS	PS 161
Pump Station	PS	PS 163
Pump Station	PS	PS 154
Pump Station	PS	PS 054



Name	Code	Number
Pump Station	PS	PS 056
Pump Station	PS	PS 057
Pump Station	PS	PS 060
Pump Station	PS	PS 063
Pump Station	PS	PS 066
Pump Station	PS	PS 067
Pump Station	PS	PS 068
Pump Station	PS	PS 071
Pump Station	PS	PS 072
Pump Station	PS	PS 074
Pump Station	PS	PS 075
Pump Station	PS	PS 077
Pump Station	PS	PS 078
Pump Station	PS	PS 080
Pump Station	PS	PS 001
Pump Station	PS	PS 002
Pump Station	PS	PS 003
Pump Station	PS	PS 005
Pump Station	PS	PS 006
Pump Station	PS	PS 007
Pump Station	PS	PS 008
Pump Station	PS	PS 013

Source: AMEC
Critical Facility Key Code, see Appendix E



Table 5.2.5e-Critical Facilities at Risk - High Wildfire Hazard Zone

Name	Code	Number
Pump Station	PS	PS 030
Pump Station	PS	PS 031
Station 5	FR	2
Station 4	FR	5
Fire Training Center	FR	15
Woodside Hospital	HO	6
Pump Station	PS	PS 117
Pump Station	PS	PS 139
Pump Station	PS	PS 152
Pump Station	PS	PS 165
Pump Station	PS	PS 057
Pump Station	PS	PS 069
Pump Station	PS	PS 075

Source: AMEC
Critical Facility Key Code, see Appendix E

5.2.6 Capability Assessment – City of Newport News

As an additional tool to assist with the examination of the hazards identified and to evaluate the community's ability to plan, develop, and implement hazard mitigation activities, the planning team developed a local capability assessment for the City of Newport News. This assessment is designed to highlight both the codified, regulatory tools available to the community to assist with natural hazard mitigation as well as other community assets that may help facilitate the planning and implementation of natural hazard mitigation over time. The following Capability Assessment Matrix was used as a basis for the City of Newport News' mitigation plan.

Table 5.2.6 - Capability Matrix – City of Newport News

	City of Newport News
Comprehensive Plan	Yes
Land Use Plan	Yes
Subdivision Ordinance	Yes
Zoning Ordinance	Yes
Floodplain Management Ordinance	Yes
-Effective Flood Insurance Rate Map Date	1-17-86
-Substantial Damage Language	Yes
-Certified Floodplain Manager	No
-Number of Floodprone Buildings	4,596
-Number of NFIP policies	1,741 (38%) as of 6/04
-Maintain Elevation Certificates	Yes
-Number of Repetitive Losses	20



	City of Newport News
CRS Rating	None
Stormwater Program	Yes
Building Code Version	VUSBC (IBC 2003)
Full-time Building Official	Yes
- Conduct "As-built" Inspections	Yes
- BCEGS Rating	3
Emergency Operations Plan	Yes
Hazard Mitigation Plan	Yes
Warning Systems in Place	Yes
-Storm Ready Certified	Yes
-Weather Radio Reception	Yes
-Outdoor Warning Sirens	Yes, for Surry only
-Emergency Notification (R-911)	Yes
-other (e.g., cable override)	Yes, cable-override
GIS system	Yes
-Hazard Data	Yes
-Building footprints	Yes
-Tied to Assessor data	Yes
-Land Use designations	Yes
Structural Protection Projects	Yes
Property Owner Protection Projects	Yes
Critical Facilities Protected	Not fully
Natural Resources Inventory	Yes
Cultural Resources Inventory	Yes
Erosion Control Procedures	Yes
Sediment Control Procedures	Yes
Public Information Program/Outlet	Yes
Environmental Education Program	Yes

Form of Governance

A Council-Manager form of government in which seven persons are elected to serve on City Council manages Newport News. Two members are elected from each of three districts, and the mayor is elected at-large. The City Manager is appointed by the City Council. The City Council also appoints the City Attorney and the City Clerk.

Guiding Community Documents

The City of Newport News has a range of guidance documents and plans for each of their departments. These include a comprehensive plan, a Flood Protection Plan, and emergency management plans. The City uses building codes, zoning ordinances, subdivision ordinances, and various planning strategies to address how and where development occurs. One essential



way the municipality guides its' future is through policies laid out in the comprehensive plan, entitled *Framework for the Future*.

Framework for the Future (2000)

The Code of Virginia requires all cities and counties in the state to have a comprehensive plan and to review it every five years to determine if revisions are necessary. The City of Newport News' *Framework for the Future* features the following:

- The plan presents long-range intentions regarding the direction and nature of future development, assesses current conditions and incorporates citizen desires into long-range public policy.
- Comprised of twelve elements that focus on aspects of future development: economic development, land use, transportation, education, parks and recreation, housing, public safety, historic preservation, human services, culture, environment, and urban services.
- Environmental element concentrates on air quality, wetlands, floodplains, natural heritage areas, soils, and water quality.
- Plans for continued growth and development and urban design in designated growth/redevelopment areas, including:
 - Oyster Point/Port Warwick
 - Patrick Henry Mall area, south of the airport
 - Endview Plantation
 - Lee Hall Industrial Park

The *Framework for the Future* also contains a *Chesapeake Bay Technical Support Document* addendum which further discusses physical constraints to development in the city: protection of potable water supply; shoreline erosion control; public and private access to the waterfront; and redevelopment of intensely developed areas and other areas targeted for redevelopment.

Zoning & Development Standards

- Identifies existing federal and state regulations for wetland, floodplain, and RPA/RMA protection.
- The document outlines required standards for new development and redevelopment based on use and zoning designation.

The City of Newport News has exceeded the minimum requirements of the NFIP through adoption of their floodplain management ordinance. The floodplain is designated as an Overlay Zoning District in Zoning Ordinance, Article XXXI, Section 45, Division 2. The community has 20 repetitive losses through the NFIP, three of which were constructed after the community's flood hazard areas were mapped (post-FIRM). The City conducted a post-flood analysis after Hurricane Floyd and concluded that one foot of freeboard would be mandated for floodplain structures. The ordinance was amended to incorporate one foot of freeboard for structures, and two feet of freeboard above the BFE for storage of certain chemicals. The freeboard also applies to structures built in the Coastal High Hazard Area. The City's Building Permit application includes a notation regarding the map panel and zone designation, and a space for the Finished Floor Elevation.



A Site Plan Review Committee for new commercial and multi-family development projects is made up of representatives from Fire and Police Departments, Newport News Waterworks, Department of Public Works, Department of Economic Development, Planning, and Codes Compliance. The Engineering Department sends at least three representatives to deal with traffic, stormwater, and storm sewer issues. Emergency Management is not involved in the Site Plan Review Committee. The City has been considering the USACE's desire to be included in the early stages of site plan review.

Building Codes

The Commonwealth of Virginia is responsible for enacting the Virginia Uniform Statewide Building Code (VUSBC), and the City of Newport News is responsible for enforcing the code locally. As of January of 2005, the VUSBC is based on the 2000 International Building Code, International Plumbing Code, International Mechanical Code, and International Fire Protection Code, and the 1999 National Electrical Code. The 2003 version of the IBC has been incorporated into the VUSBC, and went into effect in April 2005. The code contains the building regulations that must be complied with when constructing a new building or structure or an addition to an existing building, maintaining or repairing an existing building, or renovating or changing the use of a building or structure.

Enforcement of the VUSBC is the responsibility of the local government's building inspections department. Newport News charges fees to defray the costs of enforcement and appeals arising from the application of the code. The VUSBC contains enforcement procedures that must be used by the enforcing agency.

As provided in the Uniform Statewide Building Code Law, Chapter 6 (36-97 et seq.) of Title 36 of the Code of Virginia, the USBC supersedes the building codes and regulations of the counties, municipalities and other political subdivisions and state agencies, related to any construction, reconstruction, alterations, conversion, repair or use of buildings and installation of equipment therein. The USBC does not supersede zoning ordinances or other land use controls that do not affect the manner of construction or materials to be used in the construction, alteration, or repair.

Flood Protection Plan

The *Flood Protection Plan* was developed in 1999 as part of a review of stormwater management program elements in order to receive Flood Mitigation Assistance funding and as a future NFIP Community Rating System program element. The plan details the City's floodplain management activities, including (re)development regulations, capital projects, maintenance and education/outreach. New initiatives from the plan included development of flood reduction strategies for the Salter's Creek and Newmarket Creek floodplains.

Stormwater Program and Fees

In 1993, the City implemented a Stormwater Management Service Charge to fund a comprehensive stormwater management program, including capital project funding. Consequently, stormwater management capital project funding does not compete with other



project funding such as that for schools and public buildings. Within the Salter's Creek and Newmarket Creek drainage basins, a *Master Drainage and Flood Control Plan* identified major capital projects to address flooding associated with the conveyance system. Implementation of these projects is ongoing and continues as funding becomes available.

Maintenance of the City's stormwater conveyance system is a priority element of the Comprehensive Stormwater Management Program and Flood Protection Plan. Major outfall ditches are on regular maintenance intervals generated by an automated work order system. Roadside, back and side lot ditch maintenance is done on a manual, preventive maintenance schedule.

Stormwater program employees are available to assist property owners with shoreline erosion problems. The engineers can conduct on-site inspections and provide recommendations, and may also act as a liaison with the State's Shoreline Erosion Advisory Service. The City's Department of Planning and Department of Development distributes a brochure on shoreline erosion that includes recommended measures and examples of poor shoreline management.

Public Education

Among the readily available public outreach mechanisms for the City of Newport News, the City's website (<http://www2.ci.newport-news.va.us/newport-news/index.htm>) provides residents with pertinent information, provides on-line complaint forms, real estate information site, and answers numerous Frequently Asked Questions (FAQs). The City also posts most of its guiding documents, including the Comprehensive Plan on this site.

The City has implemented a program to educate citizens about floodplain management issues. Direct mailings, community meetings and newspaper advertisements are used to inform citizens about the NFIP and the Flood Assistance Program (see below). The City has also provided at least two of its five libraries with references on floodplain management and flood insurance.

Public educational advisories, public forums and brochure distribution addressing preparedness issues are conducted on an ongoing basis. The City uses presentations at booths, fairs, special needs meetings, and neighborhood group meetings to promote family preparedness and public awareness of shelter locations and evacuation routes.

Emergency Preparedness

Emergency Alert System (EAS) is a national civil emergency alert system that uses message relays between member radio and television stations to inform the public about immediate threats to national security, life, and property. EAS is now routinely used for severe weather warnings and can also be employed to disseminate Amber Alerts for missing children. The enhancement is an initiative of Governor Warner's Secure Virginia Panel designed to improve statewide preparedness, response, and recovery capabilities for emergencies and disasters. Governor Mark R. Warner announced on June 5, 2004, that Virginia would enhance its public warning capabilities with a new satellite-based system that can rapidly transmit EAS messages throughout the Commonwealth. Newport News is adding a radio station that will broadcast Newport News information only.



Storm Ready – Newport News was one of the first five communities in Virginia to be “Storm Ready.” Storm Ready is a nationwide community preparedness program that uses a grassroots approach to help communities develop plans to handle severe weather. The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear-cut guidelines on how to improve their hazardous weather operations. To be officially Storm Ready, a community must:

- Establish a 24-hour warning point and emergency operations center,
- Have more than one way to receive severe weather warnings and forecasts and to alert the public,
- Create a system that monitors weather conditions locally,
- Promote the importance of public readiness through community seminars, and
- Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises.

Newport News uses Dialogic to manage the City’s database of special needs residents. The program allows emergency managers to contact these residents directly in the event of an emergency. A special disaster hotline is activated during disasters, and all residents can call 269-2910 for assistance during events. The Office of Emergency Management has set up a special volunteer Emergency Information Team to supplement regular emergency management staff during disaster events.

Following Hurricanes Isabel and Floyd, the City made special arrangements with nursing homes, other special needs facilities, and Dominion Power to facilitate priority power restoration at these structures. A special needs shelter was established during Hurricane Isabel. In addition, the City Jail and Riverside Hospital have emergency power generators. Riverside Hospital has instituted new security procedures to prevent use of hospital power by area residents who needed to charge cell phones and conduct other non-emergency business after Hurricane Isabel.

Other Mitigation Activities

Flood Assistance Program (FAP) – FAP is a voluntary program that offers flood assistance to owners of structures that are located in the 100-year floodplain, that have finished flood elevations below the BFE and for which construction began prior to December 31, 1974 (pre-FIRM), regardless of the owner’s insurance status. There are three types of assistance considered by the program: structure and property acquisition; structure elevation; and structure relocation. Based on a cost-benefit analysis, the City determines which assistance alternative is the most appropriate for each individual site. The program is administered and funded through the City’s Department of Engineering, and administrative guidelines for the assistance are in place. As of January 2005, the City has purchased approximately 30 structures and/or parcels through FAP and dedicated the newly acquired land to open space use in perpetuity. The program began in response to flooding associated with Hurricane Floyd. The City has independently completed first floor elevation surveys of all structures in the Salter’s Creek and



Newmarket Creek floodplains, and the FAP efforts have been focused in these areas due to chronic flooding. The City has also used some stormwater utility funds to purchase homes in these areas.

In November of 1969, the USACE in cooperation with the Cities of Newport News and Hampton completed a local flood control project on Newmarket Creek north of Mercury Boulevard. The project improved the Newmarket Creek channel from Dresden Drive to Mercury Boulevard, where a dam was constructed to divert floodwaters from Newmarket Creek into Government Ditch. In the 1980s, the City of Newport News extended the Newmarket Creek Improvement project north from Dresden Drive to J. Clyde Morris Boulevard. The City's channelization project confined the 100-year flood to the newly constructed channel cross-section. These projects significantly reduced the frequency of flooding between Mercury Boulevard and J. Clyde Morris Boulevard.

Green Foundation – The Newport News Green Foundation works with residents and landowners to preserve and establish green areas in the city. The program is administered through the Department of Development. Priority acquisitions include remnant parcels with trees, along major arterials. City planning officials note that this program assists with preservation of open space, and could be used as a mitigation tool to address future land use of flood-prone, acquired parcels.

Newport News has 170 sanitary sewer pumping stations throughout the city. Officials applied for post-Isabel mitigation funding to elevate six of the repetitively-flooded stations. Federal-funding was denied; however, the City has decided the project must go forward and has included it in the budget for the coming year.

The City's EOC was originally located in the basement of City Hall, in the eastern end of Newport News. Due to flooding concerns, a new EOC compound was constructed in the Oyster Point area. The windows of the new EOC are hurricane-proof (Category 2 storm), and the building complex has its own regularly-tested power generator back-up system. Following Hurricane Isabel and the receipt of updated storm surge mapping, several of the city emergency shelters have been taken off the list. The new list of primary and secondary shelters does not include any flood-prone structures, and the City is making arrangements to ensure that residents in the southeast community (flood-prone) part of the city are bused to shelters in the northern section. Primary shelters are built to resist Category 2 storms.